Name_____

Period_____Date_____

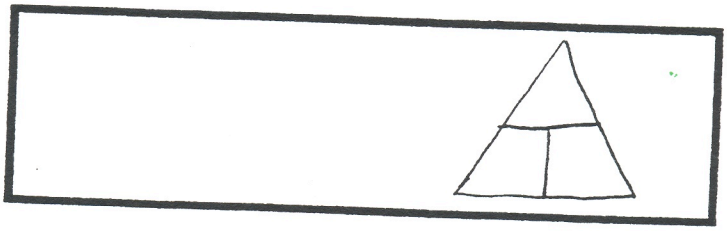
DENSITY

-Scientists often find it useful to determine how much mass of an object is contained in a given volume of that same object.

-This relationship between mass and volume is called _____.

-Density then, is the _____per unit_____of any particular substance. Density is calculated by dividing the mass (g) of the matter by its volume (ml or cm^3) Density is often expressed in grams per milliliter (g/ml) or grams per cubic centimeter (g/cm^3) or kilograms per cubic meter (kg/m^3).

-This relationship can be expressed in a formula:



Activity: Collect necessary data and calculate the density of the unknown.

Method:
1. Write the formula.
2. "Plug in" labeled data. "labeled" means with the units.
3. Show all math setups.
   Report answer with proper ***units.***

Equipment: balance, graduated cylinder

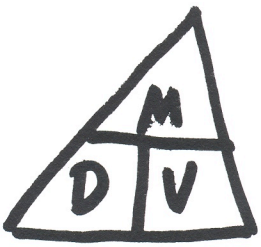
Data:

mass of unknown # 1 = _____ g
Volume of unknown #1 = _____ mL or cm^3

Calculation of density:

DENSITY NOTES

1. **FILL IN THE DENSITY TRIANGLE.**
2. **WRITE THE UNITS OF MEASURE FOR EACH QUANTITY.**
3. **WRITE THE THREE FORMS OF THE DENSITY EQUATION.**



A) **B)** **C)**

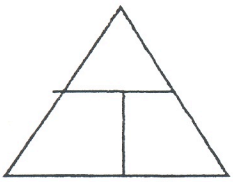
#1. A piece of plastic has a mass of 50 g and a volume of 100 mL. Find the density of the plastic. Show all work.

#2. An object has a density of 1.2 g/mL and a volume of 0.3 mL. Find the mass of the object.

#3. A piece of metal has a density of $3g/cm^3$ and a mass of 30 g. Find the volume of the metal.

DENSITY WORKSHEET

Name_____ Block _____



First, fill out the T-Triangle for Density.
Then, write out the formulas for each part.

Record answer to the nearest hundreth.

1. Find the density of a substance whose volume is 5 cm^3 and whose mass is 25 g.

2. Calculate the mass of a substance whose density is 0.2 g/cm^3 and whose volume is 45 cm^3.

3. Find the volume of a substance whose density is 4 g/cm^3 and mass is 4.1 g.

4. Find mass of a substance whose density is 8.1 g/cm^3 and volume is 2.95 cm^3.

5. Find the volume of a substance whose density is 1.93 g/cm^3 and mass is 31.3 g.

6. Find the density of a substance whose volume is 45.2 mL and mass is 5 g.

7. Calculate the volume of a substance whose density is 0.90 g/cm^3 and mass is 7.1 g.

8. Calculate the mass of a substance whose volume is 3.15 mL and density is 0.79 g/cm^3.

9. If a substance has a volume of 5.1 mL and a mass of 2.7 g, what is its density?

10. If a container of a substance is 10 mL and its density is 1.26 g/cm^3, what is its mass?